

**ORTH CAROLINA DIVISION OF  
AIR QUALITY**

# Application Review

**Issue Date:**

**Region:** Winston-Salem Regional Office  
**County:** Stokes  
**NC Facility ID:** 8500004  
**Inspector's Name:** Robert Barker  
**Date of Last Inspection:** 09/13/2017  
**Compliance Code:** 3 / Compliance - inspection

<p style="text-align: center;"><b>Facility Data</b></p> <p><b>Applicant (Facility's Name):</b> Duke Energy Carolinas, LLC - Belews Creek Steam Station</p> <p><b>Facility Address:</b>  Duke Energy Carolinas, LLC - Belews Creek Steam Station  3195 Pine Hall Road  Walnut Cove, NC 27009</p> <p><b>SIC:</b> 4911 / Electric Services  <b>NAICS:</b> 221112 / Fossil Fuel Electric Power Generation</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V  <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V</p>	<p style="text-align: center;"><b>Permit Applicability (this application only)</b></p> <p><b>SIP:</b> 02D .1111 MACT  <b>NSPS:</b> NA  <b>NESHAP:</b> 40 CFR Part 63, Subpart DDDDD  <b>PSD:</b> N/A  <b>PSD Avoidance:</b> N/A  <b>NC Toxics:</b> N/A  <b>112(r):</b> N/A  <b>Other:</b> N/A</p>
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Contact Data			Application Data
<p style="text-align: center;"><b>Facility Contact</b></p> <p>Keeley McCormick  EHS Professional  (336) 445-0204  3195 Pine Hall Road  Belews Creek, NC 27009</p>	<p style="text-align: center;"><b>Authorized Contact</b></p> <p>Reginald Anderson  General Manager III  (336) 445-0501  3195 Pine Hall Road  Belews Creek, NC 27009</p>	<p style="text-align: center;"><b>Technical Contact</b></p> <p>Erin Wallace  Sr. Environmental Specialist  (919) 546-5797  410 South Wilmington Street  Raleigh, NC 27601</p>	<p><b>Application Number:</b> 8500004.17E  <b>Date Received:</b> 08/23/2017  <b>Application Type:</b> Modification  <b>Application Schedule:</b> TV-Significant</p> <p style="text-align: center;"><b>Existing Permit Data</b></p> <p><b>Existing Permit Number:</b> 01983/T32  <b>Existing Permit Issue Date:</b> 12/01/2017  <b>Existing Permit Expiration Date:</b> 01/31/2022</p>

**Total Actual emissions in TONS/YEAR:**

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2016	5066.60	6792.52	123.64	1036.49	1149.04	81.38	40.94 [Fluorides (sum of all fluoride)]
2015	6780.39	7101.62	137.84	1151.24	1273.12	173.88	117.16 [Hydrogen chloride (hydrochlori)]
2014	7044.98	6121.65	137.25	1142.59	1437.99	135.95	116.32 [Hydrogen chloride (hydrochlori)]
2013	5080.05	5017.18	130.53	1086.46	1661.53	155.00	126.37 [Hydrogen chloride (hydrochlori)]
2012	4080.92	4958.19	146.83	1221.64	1790.17	199.36	164.12 [Hydrogen chloride (hydrochlori)]

<p><b>Review Engineer:</b> Ed Martin</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____</p> <p><b>DRAFT FOR PUBLIC NOTICE</b></p>	<p style="text-align: center;"><b>Comments / Recommendations:</b></p> <p><b>Issue</b> 01983/T33  <b>Permit Issue Date:</b>  <b>Permit Expiration Date:</b></p>
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## I. Purpose of Application

Duke is requesting that the two auxiliary boilers (ID Nos. ES-3(AuxB1) and ES-4(AuxB2)), which are subject to 40 CFR 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters", be categorized as limited-use boilers under this rule. The permit is being revised to meet the Subpart DDDDD requirements as shown in Section II.

No equipment or new sources are being added.

This is a significant Title V permit modification pursuant to rule 15A NCAC 02Q .0501(d)(1). Public notice is required.

## II. Permit Changes

The following changes were made to the Duke Energy Carolinas LLC - Belews Creek Steam Station Air Permit No. 01983T32:

Old Page	Old Section	New Page	New Section	Description of Change(s)
Cover	--	Cover	--	Amended permit numbers and dates.
4	1, table of permitted emission sources	4	1, table of permitted emission sources	Added "MACT, DDDDD" designation for ES-3 (AuxB1) and
--	--	31	2.1.B.5.b	Added condition for limited-use boilers.
30	2.1.B.5.d.i	31	2.1.B.5.e	Removed reference to the one-time energy assessment which is not required for limited-use boilers.
30	2.1.B.5.d.ii	--	--	Removed section since limited-use boilers are not subject to the initial compliance requirements.
31	2.1.B.5.e	32	2.1.B.5.f	Removed second sentence since limited-use boilers are not subject to the emission limits in Table 3 of Subpart 5D.
31	2.1.B.5.g	--	--	Removed section since limited-use boilers are not subject to the emission limits.
31	2.1.B.5.h	32	2.1.B.5.h	Removed second sentence since limited-use boilers are not subject to the emission limits.
31	2.1.B.5.i	--	--	Removed sections since limited-use boilers are not subject to the notifications, initial compliance requirements, subsequent compliance requirements or monitoring requirements.
31	2.1.B.5.j	--	--	
32	2.1.B.5.k	--	--	
32	2.1.B.5.l	--	--	
32	2.1.B.5.m	--	--	
32	2.1.B.5.n	--	--	
32	2.1.B.5.o	--	--	
32	2.1.B.5.p	--	--	

33	2.1.B.5.q	32	2.1.B.5.i	Revised requirement to conduct a tune-up of the source(s) from every year to every five years for limited-use boilers.
33	2.1.B.5.q.i	32	2.1.B.5.i.i	Revised for performing boiler inspections for limited-use boilers.
33	2.1.B.5.r	32	2.1.B.5.j	Revised tune-up requirement for limited-use boilers.
34	2.1.B.5.u	--	--	Deleted condition for the energy assessment which is not required for limited-use boilers.
34	2.1.B.5.v	33	2.1.B.5.m	Removed sections ii, iv, v and vi since limited-use boilers are not subject to those requirements.
				Changed “annual adjustment” to “tune-up” in Section 2.1.B.5.m.ii.C.
				Added requirement to keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and keep fuel use records for the days the boiler was operating for limited-use boilers in section 2.1.B.5.m.iii.
35	2.1.B.5.z	--	--	Removed section since limited-use boilers are not subject to those requirements.
70-78	3	68-76	3	Updated general conditions to version 5.2, 04/03/2018. Condition K changed: Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 02Q .0500 renewal application is submitted at least <u>six</u> months before the date of permit expiration.

### III. Facility Description

Duke Energy’s Belews Creek Steam Station is an electric utility that generates electrical power using boilers. The Belews Creek facility has two coal/No. 2 fuel oil-fired electric utility boilers (ID Nos. ES-1 and ES-2), two No. 2 fuel oil-fired auxiliary boilers (ID Nos. ES-3 and ES-4), one No. 2 fuel oil-fired emergency/blackout protection diesel generator (2000 kW), one No. 2 fuel oil-fired diesel emergency air compressor (525 hp), two emergency diesel IC engines, and various supporting scrubber limestone equipment.

### IV. Emissions and Regulatory Evaluation

The following describes the changes made to the new sections of the permit and to remove the old sections of the permit as shown in Section II above to comply with the Subpart DDDDD MACT for a limited-use boiler:

Permit Section	Subpart DDDDD Section	Subpart DDDDD Requirement
<b>New Permit Sections Changed or Added</b>		
2.1.5.b	§63.7575	Defines a limited-use boiler as any boiler or process heater that burns any amount of solid, liquid, or gaseous fuels and has a federally enforceable annual capacity factor of no more than 10 percent.
2.1.B.5.i	§63.7500(c) §63.7540(a)(12)	Limited-use boilers and process heaters must complete a tune-up every 5 years as specified in §63.7540.
2.1.B.5.i.i	§63.7540(a)(10) §63.7540(a)(12)	If the boiler meets the definition of limited-use boiler in §63.7575, the Permittee may delay the burner inspection until the next scheduled or unscheduled unit shutdown, but must inspect each burner at least once every 72 months.
2.1.B.5.j	§63.7515(d)	Each 5-year tune-up specified in §63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up.

2.1.B.5.e	§63.7500(c)	Limited-use boilers are not subject to the energy assessment.
2.1.B.5.f 2.1.B.5.h	§63.7500(c)	Limited-use boilers are not subject to the emission limits requirements.
2.1.B.5.m.iii	§63.7555(a)(3) §63.7525(k)	For units in the limited use subcategory, the Permittee must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and fuel use records for the days the boiler or process heater was operating.
<b>Old Permit Sections Removed</b>		
2.1.B.5.d.ii 2.1.B.5.g 2.1.B.5.i 2.1.B.5.j 2.1.B.5.k 2.1.B.5.l 2.1.B.5.m 2.1.B.5.n 2.1.B.5.o 2.1.B.5.p 2.1.B.5.m.ii,iv, v and vi 2.1.B.5.u 2.1.B.5.z	§63.7500(c)	Limited-use boilers are not subject to the emission limits or energy assessment. Accordingly, the notifications, initial compliance requirements, subsequent compliance requirements, monitoring requirements, performance tests, fuel analyses; or associated recordkeeping and reporting requirements do not apply.

For reporting in Section 2.1.B.5.p of the permit, DAQ requires semiannual reports as provided in Subpart DDDDD §63.7550(b)(5) as follows:

*For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established in the permit instead of according to the dates in paragraphs (b)(1) through (4) of this section.*

## **V. Public Notice**

Pursuant to 15A NCAC 02Q .0521, a notice of the draft Title V Operating Permit will be placed on the DAQ website, to provide for a 30-day comment period with an opportunity for a public hearing. Copies of the draft (proposed) permit, review and public notice will be sent to EPA for their concurrent 45-day review, to persons on the Title V mailing list, to the Winston-Salem Regional Office, and to the Permittee for review.

## **VI. Other Requirements**

### PE Seal

A PE seal is not required since no new control devices are being installed.

### Zoning

A Zoning Consistency Determination is not required since there is no expansion of the facility.

### Fee Classification

The facility fee classification before and after this modification will remain as “Title V”.

### Increment Tracking

Stokes County has triggered increment tracking under PSD for PM-10 and SO<sub>2</sub>. However, this permit modification does not consume or expand increments for any pollutants.

## **VII. Comments on Pre-Draft Permit**

### Comments from Duke

The pre-draft permit and review were sent to Erin Wallace at Duke on June 19, 2018 for review. Duke responded on June 29, 2018 with a marked-up permit. The comments are summarized as follows:

1. Remove reference to the energy assessment in Section 2.1.C.5.e as this is no longer required for limited-use boilers.

### DAQ Response

This change was made.

2. Limited-use boilers are not subject to the emission limits or energy assessment. Accordingly, the notifications, initial compliance requirements, subsequent compliance requirements, monitoring requirements, performance tests, fuel analyses; or associated recordkeeping and reporting requirements do not apply (see permit sections affected in table in Section IV above).

### DAQ Response

This change was made.

3. Only a 5-year compliance report is required for limited-use boilers rather than a semi-annual report in Section 2.1.B.5.p.

### DAQ Response

As discussed in Section IV above, DAQ requires semiannual as provided in Subpart DDDDD §63.7550(b)(5). Therefore, no change was made.

The revised draft permit was sent again to Duke for review on July 6, 2018. Duke responded on July 11, 2018 with no further comments.

### Comments from WSRO and SSCB

The draft permit and review were sent to Samir Parekh with SSCB and Robert Barker at the Winston-Salem Regional Office on June 20, 2018 for review.

On June 25, 2018, Robert Barker responded in an email with the following comment:

1. Add “MACT, DDDDD” to ES-3 and ES-4 in the emission source ID No. column in Section I of the permit.

### Permitting Response

This change was made.

No comments were received from SSCB.

## **VIII. Recommendations**

later